

BOOK REVIEWS

ENDOGENOUS PLANT GROWTH SUBSTANCES by T. A. Hill with pp. 66. Edward Arnold Ltd., London, 1973. South African Price R1,85.

This publication, No. 40 in the series "Studies in Biology" sponsored by the Institute of Biology, satisfies an urgent need for a modern general introduction to plant hormones. This is a field of botany where there has been remarkable developments in recent years and in which ideas are still changing with, to many, confusing rapidity. Although it was written primarily with first year university students in mind, this book will undoubtedly be of value to mature and lay botanists who want to brush up their knowledge of plant physiology. As with most of the previous issues in this excellent and useful series, the format is attractive and the style concise and direct.

The book opens with a completely adequate treatment of the necessary historical and chemical background. This is followed by a consideration of the methods of extraction and biological and physico-chemical assay. The instructions given in Chapter 6, on the handling of growth substances and the conduct of simple experiments, will be much appreciated by biology teachers. The remainder of the book discusses the roles of auxins, gibberellins, cytokinins, abscisic acid and ethylene in the growth and development of plants. Table 1, is valuable in that it summarises the effects of exogenous, i.e. applied, growth substances and indicates the extent to which the same effects can be attributed to endogenous hormones.

Although the author indicates that there are unresolved problems, nevertheless it must be pointed out that ideas on the role of specific substances and on the underlying mechanisms of hormonal control will probably change rapidly in the near future. Our knowledge of ethylene, abscisic acid and the cytokinins has already increased considerably since the writing of this book was undertaken. It is for, example, debatable whether abscisic acid affects any other growth phenomena than the opening and closing of stomata, and ethylene is more and more assuming the role of the primary growth factor. Nevertheless, in describing in simple terms the general principles of hormone physiology and the internal control of plant growth, this book is strongly recommended.

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MICROAUTORADIOGRAPHY AND ELECTRON PROBE ANALYSIS edited by U. Lüttge, with pp. iii + 242, 78 figs. Berlin, Heidelberg, New York: Springer-Verlag, 1972. Soft cover, U.S. \$14.60.

An extremely useful soft-cover reference work has been published by Springer-Verlag on microautoradiographic and electron-probe analytical techniques. The overall appearance of the book is neat, its size is compact enough for daily desk and laboratory use without being too small as to exclude a full and comprehensive coverage of the subject. The book should have appeal particularly to those researchers and post-graduate students in South Africa interested in the botanical applications of microautoradiography in respect both of light and electron microscopy. Inclusion of Electron Probe Analysis in the title of the book is slightly misleading since only one-seventh of it is devoted to a discussion of this technique.

The bibliography in all the chapters seems very well balanced containing references to earlier work as well as to most recent development in the respective fields. The index is excellent.

The book should be of use to anyone working actively in the field of morphogenesis since the review of the techniques is comprehensive and the diagrams and photomicrographs are of very good quality.

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